



THE MAGIC OF BLACK-AND-WHITE



THE KODAK LIBRARY OF CREATIVE PHOTOGRAPHY

THE MAGIC OF BLACK-AND-WHITE

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Glossary

Albumen print

A print made on thin paper coated with a layer of salted egg white to yield a glossy surface. Albumen prints were common in the second half of the 19th Century. They were often toned with a gold solution to improve color and stability.

Ambrotype

An early photographic image resembling a daguerreotype, for which it was a less expensive substitute. A collodion negative was treated with a mercury compound and viewed against a black background to create a positive image. See **COLLODION PROCESS**

Available light

The existing light (natural or artificial) in any situation, without the introduction of supplementary light (for example, flash) by the photographer. The term usually refers to low light levels, for example indoors or at dusk.

Backlighting

A form of lighting where the principal light source shines toward the camera and lights the subject from behind. Because contrast tends to be high, judgment of exposure can be difficult in backlit scenes. An average exposure meter reading over the whole scene will often produce over- or underexposure, so it is advisable to take a separate reading for the part of the subject for which the normal exposure is required. As well as causing problems, backlighting can also be used creatively to give, for example, pure silhouetted shapes or a halo effect around a sitter's head in portraiture.

Bleach

A chemical bath to convert the black metallic silver that forms a photographic image into a compound such as silver halide, which can then be dissolved or dyed. Bleach is used in toning and in many color processes.

Bottom lighting

A form of lighting in which the principal light source shines from directly below the subject.

Bracketing

A way to ensure accurate exposure by taking several pictures of the same subject at slightly different exposure settings above and below (that is, bracketing) the presumed correct setting.

Burning-in (printing-in)

A technique used in printing photographs whereby selected areas of an image are given more exposure than the rest.

Other areas are shaded from the light during this process.

Calotype

A photographic process invented by W.H. Fox Talbot in 1840, yielding images on writing paper that had been soaked in a salt solution and sensitized with silver nitrate.

Collodion process

The first practical process for producing negatives on glass, invented by F. Scott Archer in the mid-19th Century. A glass sheet was coated with collodion (guncotton dissolved in alcohol and ether) and sensitized with silver nitrate; this sheet was then exposed in a camera and developed. Because the plate became insensitive if allowed to dry, the collodion process was also known as the "wet-plate" process.

Combination printing

A general term describing a number of photographic techniques in which more than one negative or transparency are printed onto one sheet of printing paper to make a composite image.

Contact sheet

A sheet of negative-sized photographs made simply by placing the printing paper in direct contact with the negatives during exposure.

Contrast

The difference in brightness between the lightest and darkest parts of a photographic subject, negative, print or slide. Contrast is affected by the subject brightness, lighting, film type, degree of development, the grade and surface of the printing paper, and the type of enlarger used.

Cropping

Trimming or masking an image along one or more of its edges to eliminate unwanted parts.

Daguerreotype

A 19th-Century photograph (usually a portrait) consisting of a positive image formed by mercury vapor on a polished silver-coated plate. To view the image, it was necessary to hold up a black surface to avoid reflections from the shiny parts of the plate; these formed the shadow areas. The process was invented by Louis Daguerre in France in 1839, and was the first to be a commercial success.

Developer

A solution containing a number of chemicals that will convert a latent image on an exposed photographic material to a visible image.

Developing tank

A lighttight container, made of plastic or steel, in which film is developed. The exposed film is loaded into the tank in complete darkness and temperature-controlled chemicals are added at precisely timed intervals to make the image visible and stable.

Diffused light

Light that has lost some of its intensity by being reflected or by passing through a translucent material, such as tracing paper. Diffusion softens the light by scattering its rays, eliminating glare and harsh shadows, and is therefore of special value in portraiture.

Dodging (shading)

Means of reducing exposure in selected areas during printing by holding a solid object between the lens and the light-sensitive paper. By moving the object, abrupt changes in tone can be avoided.

Dry plate

A gelatin-coated photographic plate introduced in the late 19th Century. Unlike wet plates, dry plates did not have to be sensitized by the photographer but were available already coated.

Drying marks

Blemishes on a photographic image caused by uneven drying. Such marks can be prevented by adding a wetting agent to the final rinse or by evenly sponging all the droplets of water off the surface.

Emulsion

The light-sensitive layer of film or printing paper. Conventional photographic emulsion consists of very fine silver halide crystals suspended in gelatin, which blacken when exposed to light.

Enlarger

An apparatus that makes enlarged prints by projecting and focusing an image from a negative or transparency onto light-sensitive paper, which must then be processed to reveal the final print.

Enlarger head

The part of the enlarger that contains the light source, the negative carrier and the lens. An enlarger head also houses a filter drawer or built-in filtration system.

Enlarging easel (masking frame)

A board used with an enlarger for positioning printing paper and keeping it flat and still during exposure.

Exposure

The amount of light that passes through a lens (in either a camera or an enlarger) onto a light-sensitive material (film or photographic paper) to form an image.

Too much light causes overexposure; this makes negative film look too dark and reversal film look too light. Underexposure (too little light) has the reverse effect. In enlarging, overexposure makes a print from a negative too dark and a print from a slide too light. Underexposure has the reverse effect.

Exposure latitude

The ability of a film to record an image satisfactorily if exposure is not exactly correct. Black-and-white and color print films have more latitude than color transparency films, and fast films have greater latitude than slow ones.

Exposure meter

An instrument for measuring the intensity of light so as to determine the shutter and aperture settings necessary to obtain correct exposure. Exposure meters may be built into the camera or be completely separate units. Separate meters may be able to measure the light falling on the subject (incident reading) as well as the light reflected by it (reflected reading); built-in meters measure only reflected light. Both types of meter may be capable of measuring light from a particular part of the subject (spot metering) as well as taking an overall reading.

Farmer's reducer

Solution of potassium ferricyanide and sodium thiosulfate, used to bleach negatives and prints. It is named after the English photographer E.H. Farmer, who invented it in 1883.

Fiber-based paper see PHOTOGRAPHIC PAPER

Fill-in light

Additional lighting used to supplement the principal light source and brighten shadow. Fill-in light can be supplied by redirecting light with a white cardboard reflector, as well as by supplementary lamps or flash units.

Film speed

A film's sensitivity to light, rated numerically so that it can be matched to the camera's exposure controls. The two most commonly used scales, ASA (American Standards Association) and DIN (Deutsche Industrie Norm), are now superseded by the system known as ISO (International Standards Organization). ASA 100 (21° DIN) is expressed as ISO 100/21° or simply ISO 100. A high numerical rating (400 ISO and over) denotes a fast film – one that is highly sensitive to light and therefore ideal in poor lighting conditions.

Filter

A translucent material, such as glass, acetate or gelatin, used with a camera or enlarger to modify the light passing through the lens and thus control the appearance of the image. Color filters over the camera lens are often used with black-and-white film to alter the relationships between different tones that occur within an image.

Fixer

A chemical bath used to make a photographic image stable after it has been developed. The fixer stabilizes the emulsion by converting the undeveloped silver halides into water-soluble compounds, which can then be dissolved away.

Flashing

Reducing contrast during printing by giving the printing paper a brief additional overall exposure.

F-numbers

Numbers on a camera's or enlarger's lens barrel, indicating a scale of aperture settings. Each setting progressively doubles or halves the amount of light reaching the film or paper.

Fogging

A veil of silver in a negative or print that is not part of the photographic image. Fogging can be caused by light entering the camera, film cassette or darkroom and partially exposing the film or paper, by faulty processing solutions such as an overactive developer or a weak fixer, or by improper storage of the unexposed material.

Frontlighting

A form of lighting in which the principal light source shines from the direction of the camera toward the subject.

Gelatin

A substance used as the binding agent for the grains of silver halide in photographic emulsions. Gelatin, which is also used to make filters, is an animal protein, for which completely satisfactory synthetic alternatives have not been devised. The properties that make it especially suitable for use in emulsions are transparency, flexibility, permeability by the solutions used in processing, the ease with which it can be converted from liquid to solid, and its protective bonding action toward silver halide grains.

Graduate

A calibrated glass, plastic or steel container used for measuring liquids, for example, photographic processing chemicals, by volume.

Grain

The granular texture appearing to some degree in all processed photographic materials. In black-and-white photographs the grains are minute particles of black metallic silver that constitute the dark areas. The more sensitive – or fast – the film, the coarser the grain will be.

Gum bichromate print

A print with an image that is formed on a coating of sensitized gum to which pigment has been added. Exposure to light makes the gum insoluble; thus, washing the exposed image with water dissolves away the highlights while leaving the pigmented shadow areas intact.

Hard light

Strong, direct light that has not been diffused in any way. Hard light produces sharp, dense shadows and creates distinct modeling of forms.

High key see KEY

Highlights

Bright parts of a subject that appear as the darkest areas on a negative and as the lightest areas in a print.

Hypo eliminator

A solution used to remove traces of residual fixer from a print. ("Hypo" is a colloquial term for sodium thiosulfate, which until recently was used universally as a fixer.)

Key

A term describing the prevailing tone of a photograph. "High-key" refers to a predominantly light image; "low-key" refers to a predominantly dark one.

Large-format camera

A term applied to cameras producing large images – negatives or transparencies 4 × 5 inches or larger. Large-format cameras are very simple in construction. A front panel holds a lens, shutter and iris diaphragm; a bellows links this front panel to the rear panel, which contains a ground glass screen used for focusing. Focusing is accomplished by moving front and rear panels closer together or farther apart. Immediately before exposure, the photographer replaces the ground-glass screen with a sheet of film. A special box-shaped holder protects the sheet of film from light until the film is inside the camera.

Latitude see EXPOSURE LATITUDE

Low key see KEY

Masking

The act of blocking light from selected areas of an image for various purposes – for example, to cover the edges of a piece

of printing paper during exposure in order to produce white borders.

Masking frame see ENLARGING EASEL

Negative

A developed photographic image in which light tones are recorded as dark and dark tones as light. Usually, a negative is made up on a transparent base so that light can be beamed through it onto light-sensitive printing paper to form a positive image.

Negative carrier

A device that holds a negative or transparency flat in an enlarger between the light source and the lens.

Panchromatic

A term applied to sensitized materials (especially black-and-white film) that respond to all the visible colors of the spectrum and to some wavelengths of ultraviolet radiation.

Photographic paper (printing paper)

Paper with a light-sensitive emulsion, used for making photographic prints. When a negative or slide is projected onto printing paper a latent image forms, and this is revealed by processing. Printing paper may be fiber-based or resin-coated (RC); resin-coated papers offer speedier processing because they are water-repellent. Papers come in grades according to their contrast range.

Photolamp

A tungsten light bulb specially designed for photographic use. Photolamps are similar to household bulbs, but bigger and brighter.

Platinum print

A print made on special paper containing light-sensitive iron salts and a platinum compound, but no silver. Such prints are characterized by rich black tones.

Positive

A photographic image that corresponds in tonal values to the original subject.

Primary additive colors

Blue, green and red. Lights of these colors can be mixed together to produce white light or light of any other color.

Print

A photographic image produced by the action of light (usually passed through a negative or transparency) on paper coated with a light-sensitive emulsion.

Printing-in see BURNING-IN

Printing-out paper

An early type of printing paper that darkened to form an image under the action of daylight, as opposed to being

exposed briefly under a negative and subsequently developed.

Printing paper see PHOTOGRAPHIC PAPER

Processing

The sequence of activities (usually developing, stopping, fixing, washing and drying) that will convert a latent image on film or photographic paper into a visible, stable image.

Push-processing

Increasing development time or temperature during processing, usually to compensate for underexposure in the camera or to increase contrast. Push-processing is often used after uprating the film to cope with dim lighting. See UP-RATING

Reel

The inner core of a developing tank, used to hold film in a spiral to prevent one layer of film from touching another during processing. Some reels are adjustable to fit different film formats.

Reflector

Any surface capable of reflecting light, but in photography generally understood to mean sheets of white, gray or silvered cardboard employed to reflect light into shadow areas. Lamp reflectors are generally dish-shaped mirrors, the lamp recessed into the concave interior, which points toward the subject. Studio electronic flash equipment is often combined with an umbrella reflector, usually silvered, mounted on a stand.

Resin-coated (RC) paper see PHOTOGRAPHIC PAPER

Rimlighting

A form of lighting in which the subject appears outlined with light against dark background. Usually, the light source in rimlit pictures is above and behind the subject, but rimlit photographs can look quite different from conventional backlit images, in which the background is usually bright.

Shading see DODGING

Shadows

Dark parts of a subject that appear as the lightest areas on a negative and as the darkest areas in a print.

Sidelighting

A form of lighting in which light falls on the subject from one side. Sidelighting produces dramatic lighting effects, casting long shadows and emphasizing texture and form.

Silver halide

A light-sensitive compound of silver with a halogen such as bromine, chlorine or

iodine. Silver halides are the main constituents in photographic emulsion. The latent image produced in these halides by the action of light is converted to metallic silver by developers.

Soft light

Light that has lost its intensity by being diffused or reflected. Soft light produces weak shadows and reveals fine detail and textures.

Spotting

Retouching a print or negative to remove spots and blemishes.

Stop bath

A weak acidic solution used in processing as an intermediate bath between the developer and the fixer. The stop bath halts development and at the same time neutralizes the alkaline developer, thus preventing it from lowering the acidity of the fixer.

Test-strip (exposure test)

A strip of printing paper that is given a range of exposures or filtrations across its length as a test for the correct image density.

Tintype (ferrotype)

A photograph made on a wet collodion emulsion coated on black enameled tinplate. Tintypes were often made by itinerant photographers in the late 19th and early 20th Centuries.

Tungsten light

A common type of electric light for both household and photographic purposes, named after the filament of the metal tungsten through which the current passes.

Uprating

Setting a film speed on the camera higher than that at which the film was designed to be used. Effectively, this means underexposing to cope with dim light; an appropriate compensation is then made for the underexposure by increasing, or "pushing", the development time.

Variable-contrast paper

Black-and-white photographic paper that has variable contrast. Adding yellow filtration to the enlarger filter pack reduces the contrast of the print, and adding magenta filtration increases the contrast.

View camera see LARGE-FORMAT CAMERA

Wet plate see COLLODION PROCESS

Zone system

An advanced method of relating exposure readings to tonal values in picture-taking or printing, devised by American photographer Ansel Adams.